

## Will the real *Tinearia* please stand up? A history of errors and confusion in determining its type species (Diptera: Psychodidae)

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**Abstract.** The type species of *Tinearia*<sup>1</sup> Schellenberg, 1803 is clarified as being *Tipula hirta* Linnaeus, 1761, by subsequent designation of Enderlein in 1937, which results in *Tinearia* being deemed herein a *nomen dubium*. A brief summary of the checkered nomenclatural history of *Tinearia* is presented, with clarifications of authorship and status of the associated genera *Saccolpteryx* Haliday, 1839 and *Ulomyia* Haliday, 1856.

### INTRODUCTION

In 1803, Schellenberg and two anonymous authors<sup>2</sup> published the “*Genres des mouches diptères représentées en XLII planches projetées et dessinées par Mr. J.R. Schellenberg, et expliquées par deux amateurs de l’entomologie.*” As the title says, Schellenberg was responsible for the plates and two anonymous authors were responsible for the text.

One genus labeled on plate XL and depicting two different moth flies (Psychodidae) was *Tinearia*. The plate only has the generic name and no other name. That particular generic name does not occur in the text. It is one of a few named on a plate in this work that do not appear in the text. Its absence from the text has led some workers to believe there were no originally included species. In fact, two species were originally included without a type being designated, so that a subsequent designation would be needed for the nominal genus. This situation has been misinterpreted over the years leading to incorrect generic definitions. I here present the history of the name *Tinearia*, its originally included species, and the type species designated for it over the years; and clarify the true type species and resulting status of *Tinearia* and the dates, authorships and status of two other associated generic names (*Saccolpteryx* Haliday *in* Curtis, 1839 and *Ulomyia* Haliday *in* Walker, 1856) in nomenclature and taxonomy.

### BACKGROUND

#### Dramatis Personae

*Tinearia* Schellenberg, 1803

*Saccolpteryx* Haliday *in* Curtis, 1839

*Ulomyia* Haliday *in* Walker, 1856

Fairchild (1951)

Ježek (1977)

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1. Not to be confused with *Tinearia* Gravenhorst (1843), which the I.C.Z.N. 1957: 251 (Opinion 450) deemed a subsequent spelling of the family-group name Tineidae in Lepidoptera.

2. See Evenhuis (2014) for a detailed history of the authorship and publication of this work.

### Fairchild's faux pas

Fairchild (1951) gave some nomenclatural notes on various psychodid genera. One detailed discussion was on *Tinearia*. Fairchild had examined a copy of the 1803 work in which *Tinearia* was originally proposed and came to the conclusion that there were no originally included species. He then pointed to Coquillett (1910) as being the first to name an originally included species (*Psychoda alternata*) as the type species of *Tinearia*. Fairchild rejected Enderlein's (1937) designation of a type species basing his belief that it was not the same as the first included species by Coquillett (1910). Fairchild's interpretation was followed by Ježek (1977; plus subsequent articles) treating *Tinearia* as a valid genus with *Psychoda alternata* Say as its type. However, Fairchild made three mistakes:

- 1) He treated Schellenberg (1803) as two separate works: the plates by Schellenberg, and the text by the two anonymous authors. He determined this by noting that the plates were completed before the text by Schellenberg and assuming (incorrectly) that the publishers needed someone to do the text for those plates and found two anonymous authors to do this. Schellenberg labeled the two flies on plate 40 as *Tinearia* (Fig. 1); but the two anonymous authors made no mention of *Tinearia* in the text, thus the assumption by Fairchild that there were no originally included species. However, despite the two sets of authors and responsibilities, the title makes it clear that there is one single work, which is separated into plates and text – not two separate works. There are a number of cases within the work where names on the plate differ from what name they are described under in the text [see Evenhuis (2014) for a table of eight of these names]. In determining eligibility for type species, the ICZN *Code* (I.C.Z.N. 1999) states (Art. 67.2) that “A nominal species is only eligible to be fixed as the type species of a nominal genus or subgenus if it is an originally included nominal species”. The fact that plate 40 is labeled as *Tinearia* and that the textual legend on p. 23 for plate 40 (Fig. 2) lists two named species (*Tipula phalaenoides* and *T. hirta*) satisfies the ICZN *Code* in having two “originally included” species in *Tinearia*.
- 2) He presumed that Coquillett (1910) was the first to expressly include a species (*Psychoda alternata*) in *Tinearia*. In fact, two species were originally included in Schellenberg & Anonymii (1803) as explained above [and which Coquillett (1910) also mentioned (but he did not name them)]! However, even if the 1803 work is not considered as having “originally included” the two named species, there are a few works earlier than Coquillett (1910) that included species in *Tinearia*. The earliest after 1803 is Fabricius (1805) in which he listed under *Tipula phalaenoides* “*Tinearia*. Schellenberg. Dipt.”.
- 3) He rejected Enderlein's (1937) type species designation. Fairchild (1951) and subsequent workers who followed Fairchild's interpretation of things apparently failed to read Enderlein's complete account of *Tinearia* regarding the originally included species. Fairchild (1951) and those workers following him usually give the page of Enderlein's designation as p. 83 (Fig. 3) where *Tipula fuliginosa* (which was not an originally included species) is listed as type species. However, on p. 84 (Fig. 3), Enderlein explained that the two originally included species (*Tipula phalaenoides* and *T. hirta*) were switched on the plate; and that *T. hirta* is the same as *T. fuliginosa*. Thus, by placing the originally included species *T. hirta* in synonymy with *T. fuliginosa*, Enderlein validly designated a type species based on an originally included species.

*Tab. XXXVII. Fig. 1. TIPULAHISTRIO. Fabr. Ent. syst. IV. p. 257.  
No. 17. (nicht 51.)*

- a.* dieselbe Art vergrößert.
- b.* der Kopf noch mehr vergrößert.
- c.* der Flügel vergrößert.
- d.* die Larve vergrößert, das Maafs der natürlichen Gröfse \*
- e.* die Puppe am Schwanz aufgehängt.
- f.* die Puppe, wie sie ihren Kopf erhebt, wenn sie der Entwicklung nahe ist.

Wir kennen die Naturgeschichte dieser Art genau, und werden dieselbe ein andermal nachtragen. Die Larve bewohnt das gelbe Veilchen (*viola biflora* Linn.)

*Fig. 2. TIPULA BARBIGORNIS. Fabr. Ent. syst. IV. p. 245. No. 57.*

- g.* dieselbe Art vergrößert.
- h.* das Fühlhorn vergrößert.
- i.* die Spitze des Hinterleibs vergrößert.

*Tab. XXXVIII. Fig. 1. TIPULA PICTA. Suppl. Ent. p. 550.*

- a.* der Kopf vergrößert.
- b.* der Flügel vergrößert.

*Fig. 2. TIPULA LITTORALIS. Fabr. Ent. syst. IV. p. 246. No. 62.*

- c.* dieselbe Art vergrößert.
  - d.* der Kopf des Männchens
  - e.* der Kopf des Weibchens
- } sehr vergrößert.

Die Fig. 3 dieser Tafel werden wir unten anführen.

*Tab. XL. Fig. 1. TIPULA PHALENOIDES. Fabr. Ent. syst. IV. p. 251. No. 85.*

- a.* dieselbe Art vergrößert.
- b.* das Fühlhorn sehr vergrößert.
- c.* die Spitze des Flügels sehr vergrößert.

*Fig. 2. TIPULA HIETA. Fabr. Ent. syst. IV. p. 251. No. 84.*

- d.* dieselbe Art vergrößert.

Die Fühlspitzen und das Aderngeflecht der Flügel zeigen bey dieser Gattung Verschiedenheiten, welche untersucht zu werden verdienen.

Fig. 1. Schellenberg (1803), plate 40.



Fig. 2. Schellenberg (1803), page 23.

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**What Really Happened**

In 1803, J.F. Schellenberg authored, along with two amateurs, a publication on the genera of Diptera. Schellenberg, an artist, had painted many plates for entomologists and authored some works that were based on his plates, sometimes collaborating with others for the textual portion of those works. The title of Schellenberg's 1803 work states that he was responsible for the plates, and two anonymous authors were responsible for the text. The actual production of the work [explained in Evenhuis (2014)] was conducted in two different countries due to the invasion of Switzerland by Napoleon at the end of the 18th century. One of the anonymous authors has been identified as J.P. de Clairville; he fled across the border to nearby southern Germany to avoid Napoleon's troops (it is assumed he was either French nobility or close relations with them). Clairville in Germany wrote the text while Schellenberg in Switzerland was completing the plates, but not having access to them, Clairville did not know how the plates were identified until he returned to Switzerland in 1803, and by then it was too late. Clairville did not agree with some of the generic names Schellenberg had given to the taxa depicted on the plates, but he could not change names on the plates, which were already engraved and completed. However, Clairville and the other author of the text did provide the figure legends, naming the species depicted on those plates.

With two included species and no type designation in Schellenberg & Anonymii (1803), a subsequent designation of type species of *Tinearia* would be needed from one of those two species. The earliest subsequent designation made from one of the two included species is found in Enderlein (1937: 84). There are other works prior to Enderlein (1937) that could be construed as subsequent type designations but are invalid, e.g., Macleay (1819: 379) stated the following "...*Psychoda phalaenoides*, forming the genus *Tinearia* of Schellenberg..." but it is not a valid type designation. Sabrosky (1999) explained that such a statement is not an explicit designation of a single species as type; and Coquillett (1910: 615) gave *Tipula alternata* as the type, but it is not of an originally included species.

**Status and authorship of the genera *Sacopteryx* and *Ulomyia***

The nominal genus *Sacopteryx* was proposed by Haliday in Curtis (1839: pl. 745), with its type species *Trichoptera fuliginosa* Meigen, 1804 by monotypy (as "*fuliginosa* Meig. v. 1. p. 107. 8."). The genus name is preoccupied by *Sacopteryx* Illiger, 1811, so the replacement name *Ulomyia* was proposed in Walker (1856: 261). Fairchild (1951: 14) said the authorship of *Ulomyia* was Haliday and not Walker. Haliday is indeed author of many new taxa in Walker's *Insecta Britannica* volumes, and Walker indicated in the work itself where Haliday was to be given authorship. A check of the 1856 work shows that Walker clearly gave Haliday authorship of the new taxa in the "Phlebotomidae" by the following statement (Walker 1856: 253): "I am indebted to Mr. Haliday for all the following characters of the genera and species of this Family [Phlebotomidae]." Thus, for the new nominal genus *Ulomyia*, Haliday is its author.

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- Enderlein, Klassifikation der Psychodiden 83
- $r_{2+3}$  so lang oder kürzer als  $\frac{1}{3}$  von  $r_2$ ; wenn etwas länger, dann Flügel des ♂ mit Tasche oder Vorderrandseinbuchtung 4.
  - 4. Flügel des ♂ normal *Pericomina* nov. gen.  
(Typus: *P. opaca* (Tonn. 1922), Piemont).
  - Flügel des ♂ mit Tasche oder mit Vorderrandseinbuchtung oder mit beiden Sonderheiten . . . . . 5
  - 5. Flügel des ♂ mit taschenartiger Einenkung in der Mitte der Basalhälfte . . . . . 4.
  - Flügel des ♂ ohne taschenartige Einenkung. Vorderrand am Ende des 1. Drittels tief und breit eingebuchtet  
*Colpopteryx* nov. gen.  
(Typus: *C. undulata* (Tonn. 1919), Europa).
  - 6. Flügel des ♂ ohne Einbuchtung am Vorderrand.  
*Tinearia* Schellenb. 1803.  
(Typus: *T. fuliginosa* (Meig. 1804), Europa).
  - Flügel des ♂ mit tiefer und breiter Einbuchtung am Ende des ersten Drittels des Vorderrandes . . . . . *Marsppia* nov. gen.  
(Typus: *M. plumata* (Tonn. 1920), Europa).
  - 7.  $r_3$  endet genau in der Flügelapizze . . . . . 8.
  - $r_3$  endet hinter der Flügelapizze . . . . . 10.
  - 8. Auch die Flügelmembran pubescent. Basis von  $r_3$  und  $m_3$  fehlt,  $r_2$  nur sehr kurz. *Trichopsychoda* Tonn. 1922.  
(Typus: *T. hirtella* (Tonn. 1919), Europa).
  - Nur Adern und Flügelrand pubescent . . . . . 9.
  - 9.  $r_{2+3}$  viel länger als  $r_2$  . . . . . *Sciria* Enderl. 1935.  
(Typus: *S. adona* (Eat. 1893), Europa).
  - $r_{2+3}$  viel kürzer als  $r_2$ . Flügelmembran mit schmalen Schuppen besetzt . . . . . *Clogmia* nov. gen.  
(Typus: *C. albipunctata* (Willist. 1893), (mediterran u. Tropenkosmopolit)).
  - 10.  $r_{2+3}$  etwa so lang wie  $r_2$  oder länger als die Hälfte von  $r_3$ . Flügelmembran an der Wurzel mit ± deutlichen Schuppen 11.
  - $r_{2+3}$  kürzer als die Hälfte von  $r_2$  . . . . . 12.
  - 11. Haarwirtel der Geißelglieder normal  
*Telmatoscopus* Eat. 1904.  
(Typus: *T. morala* (Eat. 1893), Europa).
  - Haarwirtel der Geißelglieder glockenförmig  
*Xenopsathes* Eat. 1904.  
(Typus: *X. fraudulenta* (Eat. 1904), Algier).
  - 12. Flügeladern pubescent.  $r_1$  endet ein wenig vor der Flügelapizze  
*Syntomoza* nov. gen.  
(Typus: *S. niceitarsis* nov. spec., Peru).
  - Adern der Basalhälfte des Flügels dicht mit schmalen am Ende ± abgerundeten Schuppen besetzt,  $r_1$  endet in die Flügelapizze  
*Lepidiella* nov. gen.  
(Typus: *L. lanuginosa* nov. spec., Peru).

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Deutsch. Ent. Zeitschr. 1936

- downloaded www.zobodat.at
- Marsppia* nov. gen.  
Typus: *M. plumata* (Tonn. 1920), Europa.
- Flügel des ♂ mit tiefer und breiter Einbuchtung am Ende des ersten Drittels des Vorderrandes; in der Mitte der Basalhälfte mit taschenartiger Einenkung.  $r_{2+3}$  so lang oder kürzer als  $\frac{1}{3}$  von  $r_2$ .  $r_3$  endet hinter der Flügelapizze.  $r_{2+3}$ -Gabelpunkt über oder spitzwärts des  $m_{1+2}$ -Gabelpunktes.  $r_5$  faßt auf  $r_1$  in der Nähe von dessen Wurzel.
- Tinearia* Schellenb. 1803.
- Tinearia*, Schellenberg, Gattungen der Fliegen. Zürich. 1803. Tafel XL. Fig. 1, 1a, b, c.
- Ulongia*, Walker, Insecta Brit. III. 1856, pag. 261. Taf. 26, Fig. 3.
- Saccolperx*, Haliday in Curtis, Guide arrang. Brit. Ins. 1838, pag. 24 (nec Illiger 1811, Mammalia).
- Typus: *T. fuliginosa* (Meig. 1804), Europa.
- Flügel des ♂ in der Mitte der Basalhälfte mit taschenartiger Einenkung, aber ohne die Einbuchtung des Vorderrandes. Sonst wie *Marsppia*. Die Basis von  $r_1$  und  $r_3$  wird in der Einenkung dicht neben einander geführt und diese kann anscheinend dabei Ablenkung und Verschmelzung auslösen.
- Als Typus lege ich von den beiden Arten, die Schellenberg nennt, nämlich *Tipula phalaenoides* L. und *Tipula hirta* F. (= *fuliginosa*) letztere fest. Die Figurenbezeichnungen bei Schellenberg auf pag. 23 waren durch eine Verwechslung beider Namen vertauscht worden, so daß Fig. 1, 1a, b, c in Wirklichkeit letztere Species bezeichnen, Fig. 2, 2a erstere. Bei *Tipula hirta* ist dies eindeutig sicher zu erkennen. Der Gattungsname *Tinearia* findet sich nur am oberen Rande von Tafel XL.
- Colpopteryx* nov. gen.  
Typus: *C. undulata* (Tonn. 1919), Europa.
- Flügel des ♂ ohne taschenartige Einenkung, aber mit einer tiefen und breiten Einbuchtung am Ende des 1. Drittels der Länge. Sonst wie *Marsppia*.  $r_{2+3}$  kann hier etwas länger auftreten, als  $\frac{1}{3}$  von  $r_2$ .
- Hier ist ferner einzuordnen: *C. incurva* (Feuerb. 1922), Europa.

Fig. 3. Enderlein (1937), page 83 and 84.

## RESULTS

### Status of *Tinearia*

*Tinearia* Schellenberg, 1803: plate 40. Type species: *Tipula hirta* Linnaeus, 1761, by subsequent designation by Enderlein (1937: 84). *Nomen dubium*. [see under *Tipula hirta* below for explanation of the nomen dubium status].

The consequence of the revised identity of *Tinearia* here is that all nominal species attributed to it by those who believed its type to be *Psychoda alternata* Say have to now be placed under the next available name. However, there is no next available name as *Tinearia* has no synonyms and the generic circumscription of the taxa of "*Tinearia* sensu Fairchild" is equivocal [treated recently as a genus (Ježek *et al.* 2011) or as a subgenus of *Psychoda* (Gibernau & Albre 2022)], thus, no new genus is proposed for those species until their generic status within the *Psychoda*-complex of genera can be better ascertained. I here follow Gibernau & Albre's (2022) placement of *P. alternata* Say in *Psychoda* (but unplaced to subgenus) and transfer those listed by Ježek *et al.* (2011) to *Psychoda* (without subgeneric status), resulting in the following revived or new combinations:

- Psychoda acanthostyla* Tokunaga, 1957, **revived comb.**  
*Psychoda alia* Quate, 1962, **revived comb.**  
*Psychoda alternata* Say, 1825.  
*Psychoda alternicula* Quate, 1955, **revived comb.**  
*Psychoda boliviensis* Ježek, Le Pont, Martínez & Mollinedo, 2011, **n. comb.**  
*Psychoda capitipenis* Ibáñez-Bernal, 1992, **revived comb.**  
*Psychoda efflatouni* Tonnoir, 1922, **revived comb.**  
*Psychoda esfahanica* Ježek, 1990, **n. comb.**  
*Psychoda formosiensis* Tokunaga, 1957, **revived comb.**  
*Psychoda lativentris* Berdén, 1952, **revived comb.**  
 = *Psychoda quadesiana* Vaillant, 1963, **revived comb.**  
*Psychoda limicola* Vaillant, 1973, **revived comb.**  
*Psychoda platilobata* (Tokunaga, 1957, **revived comb.**  
*Psychoda pseudalternata* (Williams, 1943, **revived comb.**  
*Psychoda pseudoalternicula* Salamanna, 1975, **revived comb.**  
 = *Psychoda lebanica* Vaillant & Moubayed, 1987, **revived comb.**  
*Psychoda subquadrilobata* Tokunaga, 1957, **revived comb.**  
*Psychoda vagabunda* Quate, 1962, **revived comb.**

### Consequences of various type species designations

#### *Tipula phalaenoides* Linnaeus, 1758

This species is the type species of *Psychoda* Latreille, 1797 by subsequent monotypy in Latreille (1802: 424). It is also the type species of *Trichoptera* Meigen, 1803, by subsequent designation of Coquillett (1910: 616), thereby making *Trichoptera* a junior objective synonym of *Psychoda* Latreille, 1797.

#### *Trichoptera fuliginosa* Meigen

The type species of *Saccopteryx* Haliday in Curtis, 1839 and its replacement name *Ulomyia* Haliday in Walker, 1856. *Ulomyia* currently has 27 species allocated to it (Evenhuis & Pape 2023).

#### *Psychoda alternata* Say

Currently considered a species of *Psychoda* (cf. Evenhuis & Pape 2023). As the presumed type species of “*Tinearia* sensu Fairchild”, which has been followed by Ježek (1977) and others, the generic placement of this species (as a result of the clarification of *Tinearia* herein) needs to be ascertained in order to allow placement generically of those species previously described in or transferred to *Tinearia*.

#### *Tipula hirta* Linnaeus, 1761

The Linnaean type cannot be found (it is not in the Linnean Collection in London<sup>3</sup>; and not in other European museums checked) and the species is indeterminable (Kvifte 2013). Thus, with the type species indeterminable, the nominal genus *Tinearia* Schellenberg, 1803 is here deemed a *nomen dubium*.

3. A typed list of Diptera species in the Linnean Collection in London made by Mike Fitton in 1977 (photocopy held by me), shows *Tipula hirta* and a large number of other *Tipula* species to not be present in the Linnean Collection. For example, of the 17 *Tipula* species originally in old box no. 194, only one (*Tipula hortulana*) was found with 3 specimens. Kvifte’s (2013) inquiry corroborated its absence.

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**ACKNOWLEDGMENTS**

The late Chris Thompson alerted me more than 40 years ago to the mistakes in Fairchild (1951) concerning *Tinearia* being unknowingly perpetuated by Ježek and followers; and it is long overdue that this correction be published to clarify the status of *Tinearia* and associated taxa. A belated thanks to Chris for this. Thomas Pape kindly reviewed the manuscript and made a number of suggestions that helped improve it.

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